UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/674,178	09/29/2003	Mathilde Benveniste	630-039US	1601

51038 7590 11/30/2005

CHAPIN INTELLECTUAL PRPERTY LAW, LLC
WESTBOROUGH OFFICE PARK
1700 WEST PARK DRIVE
WESTBOROUGH, MA 01581

EXAMINER	
AHMED, SALMAN	

ART UNIT	PAPER NUMBER
2666	

DATE MAILED: 11/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/674,178	BENVENISTE, MATHILDE	
	Examiner	Art Unit	
	Salman Ahmed	2666	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10/31/2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-20 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *9/29/2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see pages 7-8 of the Remarks section, filed 10/31/2005, with respect to the rejection of claims 1-4, 12-15 under 35 U.S.C. 102(e) have been fully considered but they are not persuasive. Applicant argues that the Fulthorp reference does not disclose estimating a first temporal offset for first temporal period. Applicant argues the temporal offset for the temporal period is used to establish an advantageous polling schedule (rather than using just the temporal period) that reduces the delay between when a station queues a frame and when a station transmits a frame. However, examiner respectfully disagrees with this assertion. The present claim language is broad and in view of the broadest reasonable interpretation of this language, as was indicated in the previous office action, Fulthorp teaches (column 2 lines 61-62) the poll request signal from the remote radio unit may contain data indicative of a communications interval for each of the remote radio units. The claim language does not reflect the limitations "temporal offset for the temporal period is used reduces the delay between when a station queues a frame and when a station transmits a frame" as the applicant argues. Fulthorp teaches (column 2 lines 26-46) the poll signal includes a poll response sequence indicative of a particular time frame in which each of the remote radio units will respond to the poll signal. A poll detection unit in each of the remote radio units detects the poll signal. A control unit in each of the remote units controls transmission of the data in the particular time frame such that each of the remote radio units transmits data in the second mode in the time frame corresponding to the response sequence in the detected poll signal. Applicant argues that claim 3 recites in pad a second temporal period and a second temporal offset and further recites establishing a

transmission schedule based on the second temporal offset and the second temporal period. Again, Fulthrop fail to disclose or suggest a second temporal offset and establishing a transmission schedule based on the second temporal period and the second temporal offset. However, examiner respectfully disagrees with this assertion. The present claim language is broad and in view of the broadest reasonable interpretation of this language, as was indicated in the previous office action, Fulthorp teaches the base station periodically transmits the poll signal and the poll sequence is altered in each of the periodically transmitted poll signals in response to the communication data interval for each of the plurality of remote radio units. Fulthorp teaches (column 10 lines 41-44) the base station works its way through its polling lists until all data has been received correctly.

Accordingly, the examiner respectfully disagrees with the applicant that the rejection of claims 1-4 and 12-15 under 35 U.S.C. j102(e) as being anticipated by Fulthorp is believed to have been overcome.

Applicant's arguments, see page 8 of the Remarks section, filed 10/31/2005, with respect to the rejection of claims 6 and 17 under 35 U.S.C. 103(a) have been fully considered but they are not persuasive. Applicant argues that claims 6 and 17 depend from claims 1 or 12 and are believed allowable as they depend from a base claim that is believed allowable. Accordingly, the examiner respectfully disagrees that the rejection of claims 6 and 17 under 35 U.S.C.j103(a) as being unpatentable over Fulthorp in view of Kedar is believed to have been overcome.

Applicant's arguments, see page 8-9 of the Remarks section, filed 10/31/2005, with respect to the rejection of claims 5 and 16 under 35 U.S.C. 103(a) have been fully considered but they are not persuasive. Applicant argues that claims 5 and 16 depend from claims 1 or 12 and

are believed allowable as they depend from a base claim that is believed allowable. Further, claim 5 recites combining a polling schedule and a transmission schedule into a composite schedule. The composite schedule is used to avoid collisions between the polling schedule and the transmission schedule if they were used separately. Strayer fails to disclose or suggest a composite schedule resulting from a combination of a polling schedule and a transmission schedule. However, examiner respectfully disagrees with this assertion. The present claim language is broad and in view of the broadest reasonable interpretation of this language, as was indicated in the previous office action, Strayer teaches communication system based on polling scheduler and transmission scheduler as described in column 2 lines 57-66, column 3 lines 15-25. The claim language does not clearly state any limitation "composite schedule is used to avoid collisions between the polling schedule and the transmission schedule if they were used separately" or how a composite schedule is formed from a polling schedule and a transmission schedule. The present claim language is broad. Accordingly, the examiner respectfully disagrees with the applicant that the rejection of claims 5 and 16 under 35 U.S.C.103(a) as being unpatentable over Fulthorp in view of Strayer is believed to have been Overcome.

Applicant's arguments, see pages 9-10 of the Remarks section, filed 10/31/2005, with respect to the rejection of claims 7-11 and 18-20 under 35 U.S.C. 103(a) have been fully considered but they are not persuasive. Applicant argues that Brueckner fails to disclose or suggest estimating a temporal period and temporal offset based on a second response to a poll or when a second poll was transmitted. In regards to claims 7 and 18, the applicant argues the description of why it is advantageous is shown in paragraph 53 wherein this takes into account that there might be a significant time delay between a station's queuing a frame for transmission

and an access points first poll to the station after receiving the station's polling request. Further, applicant argues claims 8 and 19 recites establishing a polling schedule based on first temporal period and first temporal offset. Since Fulthorp, Slayer and Breucker fails to disclose or suggest a temporal offset; Fulthrop, Slayer and Breucker also fails to disclose or suggest using the temporal offset to provide a polling schedule based on the temporal period and temporal offset. Claims 9 and 20 recite in part a second temporal period and a second temporal offset and further recite establishing a transmission schedule based on the second temporal offset and the second temporal period. Again, Fulthrop, Slayer and Breucker fail to disclose or suggest a second temporal offset and establishing a transmission schedule based on the second temporal period and the second temporal offset. However, examiner respectfully disagrees with these assertions. The present claim language is broad and in view of the broadest reasonable interpretation of this language, as was indicated in the previous office action, regarding claims 7, 8, 9, 10, 18, 19 and 20, Fulthorp teaches communication method of transmitting and receiving frames based on calculated polling schedule by sending a poll message as described in the rejections of claims 1 and 12 above. In regards to claim 11 Fulthorp and Strayer teach communication system based on polling scheduler and transmission scheduler as described in the rejection of claims 5 and 16 above. In regards to claim 18, it is known in the art that a transreceiver is nothing but a combined transmitter and receiver in a same unit. regarding claims 7, 8, 9, 10, 18, 19 and 20, Breuckner teaches (page 9 section 0098) that to ensure that the slot time is determined exclusively by means of such GAP queries, the measurements are made only between two poll messages with acknowledge or between a poll message with acknowledge and a token message. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify

Fulthorp and Strayer's teaching by incorporating the teachings of Strayer of sending two polling messages for network parameter calculation. The motivation is that sampling of two messages and responses would yield a more accurate result in calculation then would sampling of one polling message and response. The claim language does not clearly state any limitation regarding the description of why it is advantageous to take into account that there might be a significant time delay between a station's queuing a frame for transmission and an access points first poll to the station after receiving the station's polling request. The present claim language is broad.

Accordingly, the examiner respectfully disagrees with the applicant that the rejection of claims 7-11 and 18-20 under 35 U.S.C. 103(a) as being unpatentable over Fulthorp in view of Strayer and in view of Breucker is believed to have been overcome.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 2, 3, 4, 12, 13, 14 and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Fulthorp et al. (US PAT 5737330), hereinafter referred to as Fulthorp.

In regards to claims 1, 2, 3, 4, 12, 13, 14 and 15 applicants disclosure of an apparatus having a method comprising: (a) receiving a polling request that specifies a first temporal period for a plurality of expected future transmissions; (b) transmitting a plurality of polls to the sender of polling request; (c) receiving a response to at Ieast one of plurality of polls; and (d) estimating a first temporal offset for first temporal period based on at Ieast one of: (i) when response was received, and (ii) when at Ieast one of plurality of polls was transmitted is anticipated by (column 2 lines 26-46) a system having a method comprising: a plurality of remote radio units each having transmit and receive capability. Each of the remote units operates in a first mode to transmit a poll request signal to initiate communications and a second mode to transmit data. A base station also having transmit and receive capability receives a plurality of respective poll requests from the plurality of remote radio units and transmits a poll signal to at least some of the remote radio units. The poll signal includes a poll response sequence indicative of a particular time frame in which each of the remote radio units will respond to the poll signal. A poll detection unit in each of the remote radio units detects the poll signal. A control unit in each of the remote units controls transmission of the data in the particular time frame such that each of the remote radio units transmits data in the second mode in the time frame corresponding to the response sequence in the detected poll signal. Fulthorp teaches (column 2 lines 61-62) the poll request signal from the remote radio unit may contain data indicative of a communications interval for each of the remote radio units. Fulthorp further teaches (column 12 lines 39-50) the polling table is checked to see if any remote unit needs to be polled. It should be noted that each remote unit has previously requested it's own polling interval. If any remote unit needs to be polled, the base station initiates the polling process. The base station must determine which

remote units are to be polled in the current cycle. Some remote units may have requested a long polling interval while other remote units may have requested a short polling interval.

In regards to claim 12 Fulthorp teaches (column 6 lines 24-29) the base station illustrated in FIG. 3A includes a transmitter and receiver, which are coupled to an antenna. The base station also includes a central processing unit.

In regards to claims 2 and 13 Fulthorp teaches (column 9 lines 60-62) that the base station keeps the requested interval from each remote unit in the polling table.

In regards to claims 3, 7 and 14 Fulthorp teaches the base station periodically transmits the poll signal and the poll sequence is altered in each of the periodically transmitted poll signals in response to the communication data interval for each of the plurality of remote radio units. Fulthorp teaches (column 10 lines 41-44) the base station works its way through its polling lists until all data has been received correctly. The base station will then wait for the next polling interval before repeating the process again. Fulthorp teaches (column 11 lines 65-68 and column 12 line1) the base station also processes data frames to be transmitted to the remote units and received from the remote units. The operation of the base station to process data frames is illustrated in the flowchart of FIG. 6.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 6 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fulthorp and in view of Kedar et al. (US PAT 4750171), hereinafter referred to as Kedar.

In regards to claims 6 and 17, Fulthorp teaches communication method of transmitting and receiving frames as described in the rejections of claims 1 and 12 above.

In regards to claims 6 and 17, Fulthorp does not teach transmit and receive happening over shared channel.

Kedar teaches (column 14 lines 34-37) in the shared timeslot channel concept all endpoints that use a same-shared timeslot channel transmit and receive along this same-shared timeslot channel.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Fulthorp's teaching by incorporating the teachings of shared communication channel by Kedar. The motivation is that, such sharing makes more efficient use of available bandwidth.

1. Claims 5 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fulthorp and in view of Strayer (US PAT 4104512).

In regards to claims 5 and 16, Fulthorp teaches communication method of transmitting and receiving frames based on polling schedule using polling table as described in the rejections of claims 1 and 12 above.

In regards to claims 5 and 16, Fulthorp does not teach communication method of transmitting and receiving frames based on combine schedule of polling schedule and transmission schedule.

In regards to claims 5 and 16 Strayer teaches communication system based on polling scheduler and transmission scheduler as described in column 2 lines 57-66, column 3 lines 15-25.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Fulthorp's teaching by incorporating the teachings of Strayer of combined scheduling based on polling and transmission scheduling. The motivation is that such combination would yield a more efficient network in terms of bandwidth and resource usage.

6. Claims 7, 8, 9, 10, 11, 18, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over (Fulthorp, in view of Strayer) and in view of Breuckner et al (US PAT PUB 2002/0024929), hereinafter referred to as Breuckner.

In regards to claims 7, 8, 9, 10, 18, 19 and 20, Fulthorp teaches communication method of transmitting and receiving frames based on calculated polling schedule by sending a poll message as described in the rejections of claims 1 and 12 above. In regards to claim 11 Fulthorp and Strayer teach communication system based on polling scheduler and transmission scheduler as described in the rejection of claims 5 and 16 above. In regards to claim 18, it is known in the art that a transreceiver is nothing but a combined transmitter and receiver in a same unit.

In regards to claims 7, 8, 9, 10, 11, 18, 19 and 20, Fulthorp and Strayer do not teach method of calculating network parameters by sending two polling messages.

In regards to claims 7, 8, 9, 10, 11, 18, 19 and 20 Breuckner teaches (page 9 section 0098) that to ensure that the slot time is determined exclusively by means of such GAP queries, the measurements are made only between two poll messages with acknowledge or between a poll message with acknowledge and a token message.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Fulthorp and Strayer's teaching by incorporating the teachings of Strayer of sending two polling messages for network parameter calculation. The motivation is that

sampling of two messages and responses would yield a more accurate result in calculation then would sampling of one polling message and response.

7. Prior arts pertinent to the application but not used in the office action:

- Reservation based polling protocol for a wireless data communications network Gilbert et al. US PAT 5297144
- Method and apparatus for allocating bandwidth in a wireless communication system Stanwood et al. US PAT PUB 2001/0038620
- Communication network having a dormant polling protocol Schrader et al. US PAT 5806561
- Channel access control in a communication system Buchholz US PAT 5239545
- Method and system for polling and data collection Newsham et al. US PAT 5615134

Conclusion

8. Applicant's argument necessitated the rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Salman Ahmed whose telephone number is (571)272-8307. The examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on (571)272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Salman Ahmed
Examiner
Art Unit 2666

SA

FRANK DUONG
PRIMARY EXAMINER